



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,508	02/26/2004	Michael C. Park	23627-08902 (IMV-098-C1-U)	9100
758	7590	11/16/2007	EXAMINER	
FENWICK & WEST LLP SILICON VALLEY CENTER 801 CALIFORNIA STREET MOUNTAIN VIEW, CA 94041			BELOUSOV, ANDREY	
			ART UNIT	PAPER NUMBER
			2174	
			MAIL DATE	DELIVERY MODE
			11/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/789,508	Applicant(s) PARK ET AL.	
	Examiner Andrew Belousov	Art Unit 2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/11/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the filing of July 11, 2007. Claims 15-24 are pending and have been considered below.

Claim Objections

2. Claim 23 is objected to because of the following informalities: contains a typographical error, the word "or" should be "of". Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 15-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 15-24 are drawn to a computer program per se. A computer program is not a series of steps or acts and this is not a process. A computer program is not a physical article or object and as such is not a machine or manufacture. A computer program is not a combination of substances and therefore not a compilation of matter. Thus, a computer program by itself does not fall within any of the four categories of invention. Therefore, claims 15-24 are not statutory.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2174

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isobe (U.S. Patent No. 5995108) in view of Jacobs et al. (U.S. Patent No. 2003/0011619.)

Claim 15, 24: Isobe discloses an interactive seamer for panoramic images, comprising:

- a. a user interface (Fig. 6) having a first display area (Fig. 6: 301) for displaying a panoramic image (a comprehensive picture of a given subject) and
- b. a second display area for displaying two or more single view images projected from the panoramic image (Fig. 6: 321),

However, Isobe does not explicitly disclose wherein,

- c. the two or more single view images having overlapping portions at least partially encompassed by at least one outlined area, each pixel in the overlapping portions encompassed by the outlined area having an opacity value that is determined by the location of the pixel in the outlined area and a predetermined opacity curve; and
- d. an image seamer for seaming the two or more single view images into the panoramic image,
- e. wherein the opacity values of the pixels in the overlapping portions encompassed by the outlined area can be manually adjusted by changing the size of the outlined area in the second display area.

Jacobs discloses a similar device for image composition, having

- c. two or more single view images having overlapping portions at least partially encompassed by at least one outlined area (Fig. 3: Blending Polygon Opacity Filter), each pixel in the overlapping portions encompassed by the outlined area having an opacity value that is determined by the location of the pixel in the outlined area and a predetermined opacity curve (Fig 3: "Sum of Light Transmitted through Left and Right Blend Polygon Filters Overlayed); and
- d. an image seamer for seaming the two or more single view images into the panoramic image (Abstract; par 15),
- e. wherein the opacity values of the pixels in the overlapping portions encompassed by the outlined area can be manually adjusted by changing the size of the outlined area in the second display area (Abstract; par. 15.)

It would have been obvious to one of ordinary skill in the art to use the known technique of using opacity blending as is disclosed in Jacobs to improve the similar device such as disclosed by Isobe in the same way to produce a predictable result.

6. Claims 16-19, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teo (U.S. Patent No. 6,046,399) in view of Isobe et al (U.S. Patent No. 5,995,108.)

Claim 16: Teo discloses an interactive seamer for panoramic images, comprising:

- a. a user interface having a first display area for displaying a panoramic image generated from a number of single view images (Fig. 4: 400), and
- b. wherein control points (Fig. 4: 410, 430) are superimposed on an area (Fig. 4: 420) in the panoramic image corresponding to the selected single view image for manually inducing changes in parts of the panoramic image (8:17-39),
- c. the manually induced changes being independent of placement or movement of the selected single view image within the panoramic image (8:22-30); and
- d. an image seamer for seaming the selected single view image into the panoramic image based on user specified parameters (Abstract.)

However, Teo does not explicitly disclose,

- a. a second display area for displaying a selected single view image projected from the panoramic image,

Isobe discloses a similar device for panorama seaming, including a

- a. a second display area (Fig. 16: 631) for displaying a selected single view image projected from the panoramic image (Fig. 6: 630.)

It would have been obvious to one of ordinary skill in the art to use the known technique of separate editing window as disclosed by Isobe to improve the similar device such as disclosed by Teo, i.e. panorama editing, in the same way to produce a predictable result.

Claim 17: Teo and Isobe disclose the interactive seamer of claim 16. Isobe further discloses wherein at least one parameter adjusts the focal length of the selected portion

Art Unit: 2174

of the panoramic image (Fig 16: 634, 635.) It would have been obvious to one of ordinary skill in the art to use the known technique of adjusting focal length as disclosed by Isobe to improve the similar device such as disclosed by Teo, i.e. panorama editing, in the same way to produce a predictable result.

Claim 18: Teo and Isobe disclose the interactive seamer of claim 16. Isobe further discloses wherein the user interface includes a third display area for displaying values of parameters (Fig. 16: 638.) It would have been obvious to one of ordinary skill in the art to use the known technique of displaying additional parameters (e.g. in text format) as disclosed by Isobe to improve the similar device such as disclosed by Teo, i.e. panorama editing, in the same way to produce a predictable result.

Claim 19: Teo and Isobe disclose the interactive seamer of claim 16. Teo further discloses wherein at least one parameter provides high resolution zoom to enable a user to examine artifacts without requiring a high resolution representation of the entire panoramic image (1:38-44; 2:23-27.)

Claim 21: Teo and Isobe disclose the interactive seamer of claim 16. Isobe further discloses wherein at least one parameter specifies the lay down order of multiple single view images seamed together to form the panoramic image (Fig. 16: 637.) It would have

Art Unit: 2174

been obvious to one of ordinary skill in the art to use the known technique of having lay down orders (such as in cases of layers) as disclosed by Isobe to improve the similar device such as disclosed by Teo, i.e. panorama editing, in the same way to produce a predictable result.

Claim 22: Teo and Isobe disclose the interactive seamer of claim 16. Isobe further discloses wherein the user interface includes multiple view windows for simultaneously showing a perspective correct view of the selected single view image and a changed view of the single view image (15:5-15.) It would have been obvious to one of ordinary skill in the art to use the known technique of having simultaneous display windows of the same content, but from different perspectives as disclosed by Isobe to improve the similar device such as disclosed by Teo, i.e. panorama editing, in the same way to produce a predictable result.

Claim 23: Teo and Isobe disclose the interactive seamer of claim 16. Teo further discloses wherein the selected single view image with manually induced changes is capable of being repositioned within the panoramic image without disturbing the manually induced changes (8:17-39.)

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teo in view of Isobe et al., and in further view of Cleary et al. (4,470,779.)

Claim 20: Teo and Isobe disclose the interactive seamer of claim 16. However, Teo and Isobe do not disclose wherein at least one parameter specifies an artificial horizon in the panoramic image. Cleary discloses a similar system for panoramic display including specifying an artificial horizon in the panoramic image (Fig. 3A-3C.) Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the known technique of Cleary of an artificial horizon to improve a similar device of panoramic displays of Teo and Isobe with user specified parameters in the same way to obtain a predictable result.

Response to Arguments

8. Applicant's arguments, filed July 11, 2007, with respect to the rejection of claims 15-24 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Teo and Isobe.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Belousov whose telephone number is (571) 270-1695. The examiner can normally be reached on Mon-Fri (alternate Fri off) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Sax can be reached on (571) 272-4072. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3800.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB

November 10, 2007

/Steven P Sax/
Primary Examiner, Art Unit 2174